- 3. Cyrtophyllus perspicillatus Fabr. Q (elytron).
- 4. Cyrtophyllus perspicillatus Fabr. 3 (head and pronotum).
- 5. Lea floridensis Beutenm. Q (outline of disk of pronotum from above).
- 6. Paracyrtophyllus robustus Caud. & (cercus, from side).
- 7. Cyrtophyllus perspicillatus Fabr. & (cercus, from side).
- 8. Cyrtophyllus intermedius Caud. & (cercus, from side).
- 9. Cyrtophyllus furcatus Caud. 3 (cercus, from side).

Class I, HEXAPODA.

Order XIII, MALLOPHAGA.

MALLOPHAGA FROM ARGENTINA.

By Vernon L. Kellogg, Stanford University, Calif.

(PLATE II.)

A small lot of Mallophaga taken from birds of Argentina (South America) was sent me in 1902 by Dr. Carlos Berg, of Buenos Aires. In recently going over this lot I find it to consist of the following nine species, of which seven at least are new and are described and figured herewith.

Eurymetopus taurus Nitzsch.

Several specimens from Diomedea regia.

Goniodes sp.?

Two specimens of a large and unusual species of *Goniodes*, without any host reference.

Lipeurus bergi, new species (Pl. ii, Fig. 1).

Males, females and young from Guira guira (Argentina).

Description of Female. — Body, length 2.7 mm., width .55 mm.; slender; strongly marked with light brown regular blotches and bands.

Head, length .55 mm., width .4 mm.; elongate, conical, with rather narrow clypeal front which is very weakly concave; two hairs in anterior angles and other short ones on lateral margins near trabeculæ; trabeculæ colorless; eyes prominent, with black pigment and a prickle; temporal margin convex, with two long hairs and two spines; occipital margin nearly straight, with two spines along posterior angles; signature transparent; ground color pale brown; antennæ and occipital bands brown, temporal margin dark brown, two brown spots along occipital margin between the occipital bands.

Prothorax almost square, with posterior margin very slightly angulated on the metathorax; one long hair on each posterior angle; transparent in middle, with dark

brown lateral margins. Metathorax a little longer than wide, sides diverging, posterior angle rounded; posterior margin with three long pustulated hairs and one small hair at the posterior angle. Legs large, slender, dark brown markings on the margin.

Abdomen elongate with two or three long hairs in posterior angle of each segment; segment 4 widest, segment 5 slightly narrower than 4, and segments 7 to 9 narrowing more rapidly; segment 9 deeply angularly emarginated, the points acute, and bearing many fine curved hairs on the inner margin; narrow marginal dark brown bands and two quadrangular lateral blotches on each segment, each blotch with a clear stigmatal spot in center; the blotches distinctly separated from each other and from the lateral submarginal uncolored space.

Male. — Body, length 1.7 mm., width .37 mm., head, length .6 mm., width a little over .3 mm. General color very much lighter than that in the female; first antennal segment longer than second, third, fourth and fifth together; abdomen with parallel sides; legs remarkably large.

Lepeurus argentinus, new species (Pl. ii, Fig. 2).

Females from *Plegadis guarana* (Argentina).

Description of Female. — Body, length 2.5 mm., width .33 mm.; very elongate and slender; parallel-sided; color, very pale with margins of head between antennæ and sutures golden yellow; thorax and abdomen with pale yellow markings.

Head, length .5 mm., width .36 mm.; elongate conical, with clypeus expanded; one lateral hair on expanded clypeal portion, one long hair in front of the suture, one at the suture, and two rather weak hairs between antenna and suture; trabeculæ small, transparent; temporal margins slightly convex, with four or more short spine-like hairs; occipital margin nearly straight with two hairs in posterior angle; eyes conspicuous with black pigment; antennæ with second segment longest, fifth next to longest, segment 4 shortest, segments 1, 3, and 4 are subequal; clypeal signature shield shaped, extending to front margin of head, pale brown, with distinct suture extending from posterior angle along the median line not quite to the anterior margin of signature; antennal bands golden brown, distinct; temporal margin pale yellow; occipital margin uncolored.

Prothorax almost square; posterior margin nearly straight, with three spines in posterior angles; lateral margins pale yellow. Metathorax quadrangular, longer than broad, slightly narrowing anteriorly; posterior margin straight, with five long and one short hairs in each posterior angle; lateral margin pale yellow. Legs large, pale yellowish markings on the margin.

Abdomen elongate; first segment slightly narrower than thorax at articulation, segments gradually widening to the fifth and narrowing from there to the ninth; segments I to 8 with four hairs on dorsal surface near posterior margin; segments I to 7 with one weak hair in posterior angles, segments 8 and 9 with two long and one short hairs; segment 9 with rounding emargination on posterior margin; segments I to 9 with very pale narrow marginal bands, and two quadrangular pale yellow blotches separated from each other and from lateral band by uncolored space.

Goniocotes abnormis, new species (Pl. ii, Fig. 3).

Males and females from Ava chloroptera (Argentina).

Description of Female. - Body, length 1.75 mm., width .55 mm.; pale with

dark brown markings; temporal margin rounded instead of angulated as usual in this

genus.

Head, length .4 mm., width .47 mm.; front narrow, rounded, with eight spines; antennæ in shallow emargination with first segment stout and longest, second segment almost as long as first, third, fourth and fifth subequal; temporal margin flatly rounded with one long hair and four prickles; occipital margin concave in middle, with two spines and one long hair in the posterior angle; pale yellow with golden yellow narrow marginal frontal bands ending posteriorly on each side in an expanded dark brown spot inside of antennal emargination; mandibles and cesophageal sclerite dark brown; eyes flatly convex with two spines; an irregular, brown ocular blotch behind the eyes.

Prothorax very narrow, about one half of the width of the head, almost quadrangular; posterior margin flatly convex; one long hair in posterior angle; posterior angles dark brown. Metathorax with blunt lateral angles, each middle of lateral margin with one spine; posterior angles with two hairs; posterior margin obtusely angled on abdomen, and bearing six long hairs. Legs rather small, pale; claws pale brown.

Abdomen elongate elliptical, segments I to 4 with one short hair in posterior angles, segments 5 to 8 with two long hairs in posterior angles; dorsal surface with four long hairs in transverse series on each segment near posterior margin; ground color whitish with distinct narrow lateral bands, darkest on anterior segments, distinct transverse blotches, each, with a clear stigmatal spot in center, in segment I to 7 are separated by a transparent white median space; segment 8 wholly colored, segment 9 with very weak rounding emargination on posterior margin.

Male. — Body, length 1.3 mm., width .5 mm.; head, length .33 mm., width .43 mm, first antennal segment very large; abdomen broadest at segment 5; elongate-oval; segments I to 7 with entire transversal abdominal bands, segments 8 and 9 wholly colored; genitalia distinct, barely chitinized, dark brown in color.

Colpocephalum guirænsis, new species (Pl. ii, Fig. 4).

Males and females from Guira guira (Argentina).

Description of Female. — Body, length 2.7 mm., width 1 mm.; pale yellow with brown border on the thorax; prothorax small.

Head, length .41 mm., width .73 mm., semilunar with flatly-rounded front, shallow ocular emarginations, and rounded posterior angles; occipital margin concave; palpi projecting by the length of the last segment, the antennæ when outstretched also projecting beyond the margin of head by the length of the last segment; two pairs of spines in the middle of front, one short hair on side followed by two long ones; the ocular fringe composed of many short prominent hairs; temporal margin with three long and about half a dozen short hairs; occipital margin concave, bare; a small, black ocular fleck; the mandibles black-tipped.

Prothorax small, shorter than broad, lateral angles obtuse, produced, and with a long hair and spines; on rounded posterior margin a row of long hairs; color pale brown with brown lateral borders. Metathorax, sides with many short spines; posterior angles with two strong hairs; posterior margin with a row of spiny hairs, anterior angles brown. Legs, large and concolorous with body.

Abdomen broadly elliptical, one long hair and several spines in each posterior angle, and a series of many short hairs along posterior margin of each segment; color

paler at sutures; ninth segment broadly rounded behind with narrow transparent margin thickly set with a fringe of short, sharp-pointed transparent hairs.

Male. — Body, length 2.5 mm., width .9 mm.; head, length .4 mm., width .73 mm.; abdomen narrower than female; genitalia distinct, projecting chitin bar reaching second segment.

Colpocephalum burmeisteri, new species (Pl. ii, Fig. 5).

Males and females from Ava chloroptera (Argentina).

Description of Female. — Body, length 2.2 mm., width 1.3 mm.; slender; well marked with entire transversal abdominal blotches with wide, whitish intersegmental spaces and dark brown, narrow lateral bands.

Head, length .33 mm., width .55 mm.; front flatly rounded, with slight rectangular orbital emargination; about five short hairs on each lateral margin of forehead and two long and three longish hairs in region just in front of orbital emargination; the palpi projecting as also the antennæ; temples narrow, two long hairs and at least four short hairs; occipital margin concave; general color yellowish brown, with narrow blackish occipital border and blackish curving ocular blotches.

Prothorax rather small, wider than long; lateral angles obtuse with three spines; posterior margin, from angle to angle, making a flattened semicircle and bearing eight hairs; general color yellowish brown, regions of lateral angles distinctly darker, transverse chitin band transparent, narrow, with a spine rising from each extremity; curving chitin bands at extremities of the transversal bar distinct, narrow. Metathorax with nearly straight posterior margin, and a series of hairs along the margin; lateral margins with six spines; posterior angles with two hairs and three spines; lateral margin with several spines. Legs rather large with marginal markings.

Abdomen long, slender, widest at segments 2 and 3; segments 1 to 6 with a long hair in the posterior angle, segments 7 to 9 with two or three long hairs; dorsal surface of each segment with a transverse thickset row of uncolored hairs near the posterior margin; all segments with distinct dark brown lateral margin.

Male. — Body, length 1.9 mm., width .55 mm.; head, length .33 mm., width .5 mm.; posterior end of last abdominal segment flatly rounded; genitalia distinct, the long chitin bar extending to the third abdominal segment.

Læmobothrium caracarænsis, new species (Pl. ii, Fig. 6).

Males and females from a Caracara eagle, *Polyborus tharos* (Argentina).

Description of Female.—Body, length 6.5 mm., width 2 mm.; strong and distinct lateral margins and paired median dark brown blotches on abdomen; a finely marked species.

Head, length 1.13 mm., width 1.2 mm., ocular emargination very prominent, front straight; each side of the middle with two long and three short marginal hairs: two strong hairs at the angle; two terminal segments of the palpi projecting beyond lateral margin of the front; temporal margin slightly angulated; eyes double, conspicuous; mandibles brown, with teeth dark brown; distinct dark brown band along posterior and lateral margins.

Prothorax, with distinct lateral angles, in apex of which two long hairs and three spines; two more long hairs and many spines along posterior lateral margins; ground

color pale with dark brown margin and darkish-brown longitudinal blotches separated from each other by a narrow uncolored space. Metathorax longer than wide, lateral margin with many spine-like hairs; a transverse row of pustulated hairs near posterior margin; lateral margin dark brown, two subtriangular blotches separated from each other by a narrow median uncolored line; anterior corners black-brown. Legs very large, distinctly marked.

Abdomen, large, lanceolate in form, one or two long hairs on the postero-lateral angles of each segment; and short hairs along lateral margins; a row of postulated hairs on the posterior margin of each segment; marginal bands dark chestnut brown and two quadrangular blotches narrowly but distinctly separated from each other and more widely from the lateral bands by uncolored space; posterior margin of the last abdominal segment pointed.

Male.—Body, length 5.5 mm., width 1.5 mm.; head, length 1 mm., width 1.05 mm.; abdomen slenderer than in the female, last segment parabolic in form with several weak hairs along the margin; clear space down the median line separating the abdominal blotches, not so distinct as in the female, and wanting in the last three segments.

Menopon argentinus, new species (Pl. ii, Fig. 7).

Females from Chrysomitris icterica (Argentina).

Description of Female. — Body, length 1.2 mm., width .43 mm.; pale yellow, head and thorax slightly darker; abdomen with pale brown transverse blotches.

Head, length .27 mm., width .35 mm.; semilunar with evenly rounding front, shallow ocular emarginations with rounded posterior angle; occipital margin concave; palpi projecting by the length of the last segment; a pair of minute hairs in middle of front, a longer one on side followed by a very short one, and then three long ones in front of the emargination; the ocular fringe composed of rather strong hairs; temporal margin with three long hairs, two more on occipital margin of the produced temples; two long hairs along middle of the occipital margin; a small, black, ocular fleck and dark brown ocular blotch.

Prothorax subquadrangular, posterior margin convex with six longish hairs, and three spines along middle of the lateral margin; latero-posterior corners angulated. Meso- and metathorax fused, although the line of fusion is marked by a lateral emargination and by an indicated transverse suture; posterior angle with one long hair and three spines; the straight posterior margin with four marginal hairs. Legs stout, with dark brown marginal markings.

Abdomen obovate in form, widening posteriorly to segment 3; segment 4 a little narrower than segment 3, and segment 5 and 9 narrowing more rapidly; segments 1 to 7 with two or three long spines on lateral margin; with pale brown lateral bands and very pale transverse blotches.

EXPLANATION OF PLATE II.

FIG. I. Lipeurus bergi Kell.

Fig. 2. Lipeurus argentinus Kell.

Fig. 3. Goniocotes abnormis Kell.

Fig. 4. Colpocephalum guiransis Kell.

Fig. 5. Colpocephalum burmeisteri Kell.

Fig. 6. Lamobothrium caracaransis Kell.

FIG. 7. Menopon argentinus Kell.